

## **Pieces of Other Worlds – Extraterrestrial Samples for Education and Public Outreach**

Carlton Allen

During the Year of the Solar System spacecraft from NASA and our international partners will encounter two comets; orbit the asteroid Vesta, continue to explore Mars with rovers, and launch robotic explorers to the Moon and Mars. We have pieces of all these worlds in our laboratories, and their continued study provides incredibly valuable “ground truth” to complement space exploration missions. Extensive information about these unique materials, as well as actual lunar samples and meteorites, are available for display and education.

The Johnson Space Center (JSC) has the unique responsibility to curate NASA's extraterrestrial samples from past and future missions. Curation includes documentation, preservation, preparation, and distribution of samples for research, education, and public outreach.

At the current time JSC curates six types of extraterrestrial samples:

- Moon rocks and soils collected by the Apollo astronauts
- Meteorites collected on US expeditions to Antarctica (including rocks from the Moon, Mars, and many asteroids including Vesta)
- “Cosmic dust” (asteroid and comet particles) collected by high-altitude aircraft
- Solar wind atoms collected by the Genesis spacecraft
- Comet particles collected by the Stardust spacecraft
- Interstellar dust particles collected by the Stardust spacecraft

These rocks, soils, dust particles, and atoms continue to be studied intensively by scientists around the world. Descriptions of the samples, research results, thousands of photographs, and information on how to request research samples are on the JSC Curation website:

<http://curator.jsc.nasa.gov/>

NASA provides a limited number of Moon rock samples for either short-term or long-term displays at museums, planetariums, expositions, and professional events that are open to the public. The JSC Public Affairs Office handles requests for such display samples. Requestors should apply in writing to Mr. Louis Parker, JSC Exhibits Manager. Mr. Parker will advise successful applicants regarding provisions for receipt, display, and return of the samples. All loans will be preceded by a signed loan agreement executed between NASA and the requestor's organization. Email address: [louis.a.parker@nasa.gov](mailto:louis.a.parker@nasa.gov)

Sets of twelve thin sections of Apollo lunar samples and sets of twelve thin sections of meteorites are available for short-term loan from JSC Curation. The thin sections are designed for use in college and university courses where petrographic microscopes are available for viewing. Requestors should contact the Ms. Mary Luckey, Education Sample Curator. Email address: [mary.k.luckey@nasa.gov](mailto:mary.k.luckey@nasa.gov)

NASA also has sets of Moon rocks and meteorites to loan for use in classrooms, libraries, museums and planetariums. Lunar samples (three soils and three rocks) are encapsulated in a six-inch diameter clear plastic disk. Disks containing six different samples of meteorites are also available. A CD with PowerPoint presentations, a classroom activity guide, and additional printed material accompany the disks. Educators may qualify for the use of these disks by attending a security certification workshop sponsored by NASA's Aerospace Education Services Program (AESP). Contact Ms. Margaret Maher, AESP Director. Email address: [mjm67@psu.edu](mailto:mjm67@psu.edu)